Savings From Generic Drugs Purchased at Retail Pharmacies

Generics have long offered a safe and inexpensive alternative to many brand-name drugs. Using average national retail price data from IMS Health's National Prescription Audit *Plus*^{TM}, we calculate the per-day drug costs for several different hypothetical patients. We show that the drug costs per day can fall by 14 to 16 percent if patients use generics instead of branded drugs, depending on their medical needs. Patients whose needs can be fully satisfied with generics could enjoy reductions of 52 percent in the daily costs of their medications.

For this analysis we use the average national retail price of drugs in brick-and-mortar pharmacies (i.e. chain, independent and foodstore pharmacies, excluding internet, mail order and long-term care pharmacies), a measure that averages pharmacies' revenues from uninsured customers, insured customers, and Medicaid beneficiaries alike.[1] This measure of average national retail price would generally be lower than the retail prices paid by the uninsured. Our use of this measure implies that the savings are interpretable as total cost savings—including to Medicaid and insurance companies—and not necessarily out-of-pocket savings to patients.

We examine six hypothetical patients, and calculate two costs for each patient. The first cost estimate is for the case where all drugs are branded products. The second cost estimate is for the case where the patient buys generic versions if they are available. The six hypothetical patients include one who is prescribed only off-patent products, two who are prescribed only on-patent products, and three that are prescribed a mix of both.

Table 1 below lists the specific drugs and strengths. Using dosing information also presented below, we calculate average daily drug costs from prescription price data for the first quarter of 2004, taken from IMS's NPA *Plus*^{TM} data on brick-and-mortar retail pharmacies. For example, the average price of a 5 mg pill of Norvasc is $1.62, so that the average daily drug costs (including costs to all third party payers) for this daily dose of Norvasc would be $1.62.

This analysis includes several caveats. First, these hypothetical patients are chosen to be illustrative and thus may not be fully representative of the medical needs of a given individual or population. Second, generic prices available to the average consumer may be significantly lower than the median prices reported here. While the median prices are less influenced by outliers than arithmetic means, averages weighted by volume may be a better measure of the price that the typical consumer pays. Weighted averages would give greater importance to manufacturers with high sales volumes relative to smaller manufacturers. Since the low-price manufacturers are likely to sell larger volumes of drugs, the weighted average price may be less than the median price reported here. Finally, savings from generics will increase as more patents expire. For example, FDA approved a generic competitor to Paxil at the end of the period when these price data were collected, so patient #2 may enjoy some savings in the future.

The maximum savings occur when the most generics are prescribed (Scenario 1), and no savings can occur when only on-patent products are prescribed (Scenarios 2 and 3). This can occur when all drugs available with the desired active ingredient in a given dosage form are patented. However, even when generic drugs make up only a portion of the drugs prescribed, savings of 14-16 percent can be realized (Scenarios 3-6).

[1] For generic prices, we use the median average price among all generic manufacturers. We use medians because, at the time we conducted this analysis, we lacked volume data necessary to compute a weighted average.

Table 1: Potential Savings From Generic Drugs

Hypothetical Patient	Conditions	Drugs (Brand Name/Generic where available)	Dosing(1)	Retail Cost Per Day (all brand)(2)	Retail Cost Per Day (brand/generic where available) (3)	Generic Savings ($)	Generic Savings (% of total spending)
Scenario #1	**Market Basket Total**			**$5.79**	**$2.77**	**$3.02**	**52.1%**
	Asthma	(Ventolin/albuterol) (4)	2 puffs every 4-6 hours as needed	$1.44	$0.69	$0.75	52.3%
	Hypertension	(Prinivil/lisinopril)	20 mg per day	$1.16	$0.60	$0.57	48.5%
	Diabetes	(Glucophage/metformin)	850 mg twice daily	$2.81	$1.29	$1.52	54.1%
	Congestive Heart Failure	(Lasix/furosemide)	40 mg per day	$0.38	$0.20	$0.18	47.1%
Scenario #2	**Market Basket Total**			**$12.13**	**$12.13**	**$0.00**	**0.0%**
	Osteoarthritis	Celebrex	200 mg per day	$3.03	$3.03	$0.00	0.0%
	Hypercholesterolemia	Zocor	40 mg per day	$4.54	$4.54	$0.00	0.0%
	Depression	Paxil	20 mg per day	$2.93	$2.93	$0.00	0.0%
	Hypertension	Norvasc	5 mg per day	$1.62	$1.62	$0.00	0.0%
Scenario #3	**Market Basket Total**			**$16.05**	**$16.05**	**$0.00**	**0.0%**
	Schizophrenia	Zyprexa	10 mg per day	$9.76	$9.76	$0.00	0.0%
	Hypercholesterolemia	Lipitor	40 mg per day	$3.55	$3.55	$0.00	0.0%
	Depression	Zoloft	50 mg per day	$2.74	$2.74	$0.00	0.0%
Scenario #4	**Market Basket Total**			**$8.13**	**$6.93**	**$1.20**	**14.7%**
	Anti-coagulant	(Coumadin/warfarin)	2.5 mg per day	$0.87	$0.58	$0.30	33.8%
	Hypertension	(Vasotec/enalapril)	20 mg per day	$1.71	$0.81	$0.90	52.8%
	Osteoarthritis	Vioxx	25 mg per day	$3.00	$3.00	$0.00	0.0%
	Osteoporosis	Fosamax	70 mg per week	$2.55	$2.55	$0.00	0.0%
Scenario #5	**Market Basket Total**			**$14.25**	**$11.98**	**$2.27**	**15.9%**
	Asthma	(Ventolin/albuterol) (3)	2 puffs every 4-6 hours as needed	$1.44	$0.69	$0.75	52.3%
	Diabetes	(Glucophage/metformin)	850 mg twice daily	$2.81	$1.29	$1.52	54.1%
	Diabetes	Actos	30 mg per day	$5.45	$5.45	$0.00	0.0%
	Hypercholesterolemia	Pravachol	40 mg per day	$4.55	$4.55	$0.00	0.0%
Scenario #6	**Market Basket Total**			**$11.32**	**$9.50**	**$1.82**	**16.1%**
	Hypertension/mild congestive heart failure	(Zestril/lisinopril)	20 mg per day	$1.28	$0.60	$0.68	53.1%
	Coronary artery disease; congestive heart failure	(Toprol XL/metoprolol)	200 mg per day/ 100 mg twice a day	$1.96	$0.82	$1.14	58.2%
	Hypercholesterolemia	Lipitor	40 mg per day	$3.55	$3.55	$0.00	0.0%
	Acid Reflux	Aciphex	20 mg per day	$4.53	$4.53	$0.00	0.0%

(1) All medication is taken once per day unless otherwise noted.
(2) Prices are average retail prices in brick-and-mortar pharmacies (i.e. chain, independent and foodstore pharmacies, excluding internet, mail order and long-term care pharmacies) across all payer types (cash-only, Medicaid and other 3rd party payers) for the first quarter of 2004.
(3) Generic prices are calculated in the same fashion using the median price among generic manufacturers. A weighted average price would have been preferable, but no prescription volume data were available at the time by which to weight the different manufacturers.
(4) Patients using albuterol are assumed to need 7 puffs on an average day.
Data Source: IMS Health, National Prescription Audit *Plus*™; 1st Quarter 2004; extracted April 2004; analysis conducted by the FDA.